MIL-C-7942B(ASG)
16 MARCH 1966
Superseding
MIL-C-7942A(ASG)
12 June 1957

MILITARY SPECIFICATION

# CONNECTORS, HOSE, QUICK-DISCONNECT, ANTI "G" SUIT

This specification has been approved by the Department of the Air Force and by the Bureau of Naval Weapons.

## 1. SCOPE

1.1 Scope.- This specification covers male and female quick-acting connectors for anti "g" suit hose.

1.2 Classification.- The connectors are classified as:

| | |
|---|---|
| Male connector | MS22011 |
| Female connector | AN6532 |

## 2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

SPECIFICATIONS

Military

| | |
|---|---|
| MIL-P-116 | Preservation, Methods of |
| MIL-P-7936 | Parts and Equipment, Aeronautical, Preparation for Delivery |

STANDARDS

Military

| | |
|---|---|
| MIL-STD-105 | Sampling Procedures and Tables for Inspection by Attributes |
| MIL-STD-130 | Identification Marking of US Military Property |
| MIL-STD-831 | Test Reports, Preparation of |
| MS22011 | Connector - Hose, Quick-Disconnect, Male, Anti "G" Suit |

Air Force-Navy Aeronautical

| | |
|---|---|
| AN6532 | Connector, Hose, Quick-Disconnect, Female, Anti "G" Suit |

FSC 4730

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Preproduction inspection.- Preproduction inspection shall be performed as specified in 4.3.

3.2 Materials.- The materials shall be as specified on MS22011. When materials are used that are not specifically designated, they shall be entirely suitable for the purpose intended.

3.3 Design and construction.- The connectors shall be designed and constructed in accordance with AN6532 or MS22011 as specified in the contract or order (see 6.2). The connectors shall be designed to permit connecting the MS22011 connector to the AN6532 connector by inserting the MS22011 connector into the AN6532 connector.

3.4 Performance.-

3.4.1 High temperature exposure (160° F).- The connectors shall pass the test specified in 4.6.3.

3.4.2 Low temperature exposure (-65° F).- The connectors shall pass the test specified in 4.6.4.

3.4.3 Connection, disconnection force.- The force required to connect the MS22011 connector to the AN6532 connector shall not be more than 20 pounds. The force required to disconnect the MS22011 connector from the AN6532 connector shall not be less than 5 pounds nor more than 20 pounds.

3.4.4 Leakage.- The connectors shall not leak when subjected to an internal pressure of 40 psig during the test specified in 4.6.6.

3.5 Finish.- The connectors shall be finished as specified on the applicable standard. Protective treatment that will crack, chip, or scale with age or exposure to any atmospheric conditions shall not be used.

3.6 Identification of product.- The following information shall be legibly marked on the male and female connectors in accordance with MIL-STD-130:

MS or AN Part No.
Manufacturer's name or trademark

3.7 Workmanship.- The connectors shall be constructed in accordance with good commercial practice. They shall be free from any defect that might affect appearance, functionability, or acid resistance. The connector shall be clean and dry, free from oil, grease, and other foreign matter.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection.- Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspection.- The examination and testing of the connectors are classified as:

(a) Preproduction inspection: Preproduction inspection is the examination and testing after award of contract of sample connectors to determine if production line connectors conform to requirements specified herein.

(b) Quality conformance inspection: Quality conformance inspection is the examination and testing of individual connectors and samples from inspection lots to determine if the individual connectors and the lot of connectors conform to the requirements specified herein.

4.3 Preproduction inspection.- Preproduction inspection shall consist of performing all the examinations and tests specified herein.

4.3.1 Preproduction samples.- Preproduction samples shall consist of three connectors of each AN or MS part number specified in the contract or order. The samples shall be representative of the construction, components, materials, and workmanship used during production. When a contractor is in continuous production of these connectors from contract to contract, submission of a further preproduction sample on a new contract may be waived at the discretion of the procuring activity. Approval of the preproduction samples or waiving preproduction inspection does not preclude the requirements to perform quality conformance inspection. When preproduction inspection is performed by the supplier, the tested samples and test report specified in 4.3.2 shall be forwarded as specified in the contract or order. When the performance of preproduction inspection is the responsibility of the procuring activity, the samples shall be forwarded as specified in the contract or order (see 6.2).

4.3.2 Preproduction inspection report.- When the preproduction inspection is performed by the supplier, a preproduction inspection report shall be prepared in accordance with MIL-STD-831. Three copies of the report shall be forwarded with the tested samples specified in 4.3.1.

4.4 Quality conformance inspection.- Quality conformance inspection shall consist of performing examinations and tests on individual and sample connectors as specified in table I. Acceptance or rejection shall be in accordance with MIL-STD-105 under the criteria specified in table I.

4.4.1 Inspection lot.-

4.4.1.1 Connectors.- An inspection lot shall consist of connectors having the same AN or MS part number that were manufactured under the same condition, from the same material, and offered for inspection at one time.

4.4.1.2 Preparation for delivery.- An inspection lot shall consist of shipping containers required to package a lot of connectors defined in 4.4.1.1 that have been prepared for shipment under the same conditions and from the same material.

TABLE I. Quality conformance inspection, sample size, and acceptance criteria

| Inspection | Method par. No. | Sample size | Acceptance criteria |
|---|---|---|---|
| Examination of product | 4.6.1 | Critical defects: Every connector. Minor defects: Inspection level II | Critical defects: Reject all defective connectors. Minor defects: Acceptable quality level (AQL) 2.5 defects per 100 units |
| Examination of dimensions | 4.6.2 | 1/ Inspection level S-1 | Acceptance number (Ac) - Zero Rejection number (Re) - One |
| Connection, disconnection force | 4.6.5 | 1/ Inspection level S-1 | Ac - Zero Re - One |
| Leakage | 4.6.6 | 1/ Inspection level S-1 | Ac - Zero Re - One |
| Preparation for delivery | 4.6.7 | Inspection level S-2 | AQL 4.0 percent defective |

1/ The sample size shall be based only on the applicable sample size code letters corresponding to the specified inspection level of MIL-STD-105.

4.4.2 Sampling.- Samples shall be selected in accordance with MIL-STD-105. The sample size shall be as specified in table I. A unit of sample of the connector shall be one connector assembly. A unit of sample of preparation for delivery shall be one shipping container containing connectors that have been prepared for delivery, except the shipping container need not be sealed.

4.5 Inspection conditions, atmospheric.- Unless otherwise specified, tests shall be conducted at local ambient temperature and barometric pressure. The temperature and barometric pressure shall be recorded at the time of inspection. This information shall be available for computation of test data, where required, to normal temperature and pressure (NTP) conditions. NTP conditions are 29.92 inches of mercury and 70° F.

4.6 Inspection methods.-

4.6.1 Examination of product.- The connectors shall be examined to determine conformance to this specification and the applicable standard and to determine the existence of any defects listed in table II.

4.6.2 Examination of dimensions.- The connectors shall be examined to determine if dimensions are as specified. Any dimensions not within tolerance shall be considered a defect.

4.6.3 High temperature exposure.- The connector shall be placed in a chamber and heated to a temperature of +160° F or higher. The connector shall be maintained at this temperature for 3 hours and then allowed to cool to room temperature. The connector shall then be subjected to the tests specified in 4.6.5 and 4.6.6.

TABLE II. Classification of defects for visual examination of the connectors

| Critical | Minor |
|---|---|
| 1. Material imperfections - foreign matter embedded | 201. Marking - missing, insufficient, incorrect, illegible, or not permanent. |
| 2. Surface - unclean, rough, mis-aligned, or containing cracks, nicks, or other flaws | |
| 3. Any component missing, malformed, fractured, or otherwise damaged | |
| 4. Any component loose or otherwise not securely retained | |
| 5. Incorrect assembling or improper positioning of components | |
| 6. Any functioning part that works with difficulty | |
| 7. Faulty workmanship or other irregularities | |

4.6.4 Low-temperature exposure.- The connector shall be placed in a chamber and cooled to a temperature of -65° F or lower. The connector shall be maintained at this temperature for 3 hours and then subjected to the tests specified in 4.6.5 and 4.6.6.

4.6.5 Connection, disconnection force.- The AN6532 connector shall be held in a fixed position to enable connecting each MS22011 connector. The dust cap of the AN6532 connector shall be held open to avoid interference with the MS22011 connector. The MS22011 connector shall be placed against the AN6532 connector in a connecting position and a connecting force applied to the MS22011 connector. The resultant force shall act along the longitudinal axis of the MS22011 connector. The force shall be increased and continuously measured until connection occurs. The magnitude of the force at the time of connection shall be recorded. After connection, the direction of the force shall be reversed with the resultant acting along the longitudinal axis of MS22011 connector away from the AN6532 connector. The force shall be increased and continuously measured until disconnection occurs. The magnitude of the force at disconnection shall be recorded.

4.6.6 Leakage.- The AN6532 connector and the MS22011 connector shall be connected, and the open end of either connector sealed to retain at least 40 psig gas pressure. The open end of the other connector shall be connected to a source of air pressure with a gage or mercury manometer connected to indicate the internal gas pressure of the connectors. The connectors shall be submerged in water and a pressure of 40 psig applied to the connectors and maintained for at least 60 seconds. During submersion, the connectors shall be examined for ascending air bubbles. Ascending air bubbles at the end of 60 seconds or separation of the connectors shall be cause for rejection.

4.6.7 Examination of preparation for delivery.- The shipping containers and the contents shall be examined to determine if the preservation, packaging, packing, and marking conforms to the specified levels and for existence of defects listed in table III.

TABLE III. List of defects for preparation for delivery

| Item | Defects |
|---|---|
| Exterior and interior markings | Missing, incorrect, incomplete, illegible; of improper size, location, sequence; or method of application; markings not the same on the interior and exterior containers. |
| Packaging and packing materials | Any nonconforming component; any component missing, damaged, or otherwise defective. |
| Exterior and interior weight or content | Number per container is more or less than required; gross or net weight exceeds the requirements. |
| Workmanship | Inadequate application of the components such as incomplete closure of the unit package, intermediate package, container flaps, loose strappings, etc.; bulging or distortion of the containers. |

5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, packing, and marking.- The connectors shall be prepared for delivery in accordance with MIL-P-7936 at the level specified in the contract or order. Preservation shall be in accordance with Method IA of MIL-P-116.

6. NOTES

6.1 Intended use.- The quick-acting hose connection covered by this specification are intended for use with the pneumatically inflated equipment of anti "g" suits.

6.2 Ordering data.- Procurement documents should specify:

(a) Number, date, and title of this specification.
(b) AN or MS part number including the dash number of connector required (see 1.2).
(c) Whether preproduction inspection is required (see 4.3.1)
(d) When the procuring activity is responsible for the performance of preproduction inspection, instructions for shipping samples for testing (see 4.1 and 4.3.1).
(e) When the supplier is responsible for performing preproduction inspection, instructions for shipping tested samples and inspection reports (see 4.3.1 and 4.3.2).
(f) Required level of preparation for delivery (see 5.1).

6.3 Government furnished property.- When procurement is for only the AN6532 or MS22011 connector, the procuring activity will furnish the supplier with the mating connector for test purposes.

Custodians:
Navy - WP
Air Force - (11)

Reviewer activities:
Navy - WP
Air Force - (11), (69)

Preparing activity:
Air Force - (11)